

Appl. No. 10/821,347
Amdt. Date November 29, 2005
Reply to Advisory Office Action of November 7, 2005

REMARKS

Applicant really appreciates Examiner for the arduous work to examine the present application and reply promptly.

In the prior Office Actions, especially the first Office Action, the independent claims 1, 9 and 17 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Mori in view of Byquist.

In response, Applicant respectfully requests reconsideration of the rejections for the following reasons:

1. The combination of Mori and Byquist in the proposed manner is not justified and illogical

In mounting an IC package on the socket 10 of the present invention, the socket plate 30 and the load lever 40 need to corporately provide a pressing force to hold the IC package. Accordingly, the socket body 50 needs to offer an upward counterforce to balance the pressing force. The upward counterforce tends to simultaneously pull up two ends of the socket body 50 to which the socket plate 30 and the load lever 40 are connected, respectively, and induces deformation of the socket body 50.

However, there is no issue of deformation of the socket body in either Mori or Byquist. The further explanation is detailed as following:

In mounting an IC package on the socket of Mori, there is no upward force exerted on two ends of the lower block 10 because the slide block 40 and the closing mechanism 50 are not connected to the lower block 10. The force of the cover member 30 is evenly transformed to the upper block 20 and, therefore, there is no issue of deformation of the socket body, much less the two opposite ends of the lower block 10 and the upper block 20.

In Byquist, when an IC package is positioned in the socket 450, the cantilevered arms (not labeled in Fig.4) on the sidewalls of the socket 50

Appl. No. 10/821,347
Amdt. Date November 29, 2005
Reply to Advisory Office Action of November 7, 2005

only provide horizontal springs to resiliently resist the IC package, so as to secure the IC package in the socket 50. Therefore, there is no upward force exerted on the socket 50, which may induce deformation of the socket 50.

In view of the preceding remarks, Applicant respectfully insists that there is no issue of socket body deformation in either Mori or Byquist. There is no reason given in the Office Actions to support the proposed combination, and neither of the references shows objective teaching that would lead one of ordinary skill in the art to combine the references. It is not sufficient to merely selectively modify parts of one reference (the ledges of Byquist's) with another reference (Mori) in order to arrive at Applicant's claimed invention.

In summary, Applicant submits that combining Mori and Byquist is not justified and illogical. The rejection based on combination of these references is improper and should be withdrawn.

2. The novel features of each of claims 1, 9 and 17 produce new and unexpected results and, therefore, are unobvious and patentable over these references.

Even if the proposed combination of Mori and Byquist were proper, independent claims 1, 9 and 17 still have novel physical features over the combination. In other words, Applicant's invention, as clearly defined in independent claims 1, 9 and 17 comprises significantly more than merely modifying and reversing the protrusion/slot arrangement of Mori with Byquist.

Specifically, as detailed below, limitations (a) and (b) of each of claims 1, 9 and 17 distinctly distinguish Applicant's claimed invention from proposed combination of Mori and Byquist:

limitation (a): "the first sidewalls form a plurality of protrusions on the exterior surface adjacent the connecting section and the retaining section"

Appl. No. 10/821,347
Amdt. Date November 29, 2005
Reply to Advisory Office Action of November 7, 2005

limitation (b): "the second sidewalls correspondingly define a plurality of slots to mate with the protrusions, thereby reinforce the socket body via engagement between the protrusions and the slots"

However, the proposed combination of Mori and Byquist fails to recite limitations (a) of the claimed invention. Actually, as clearly shown in Fig. 4 of Byquist, the ledge 454 of the socket 450 and the ledge 414 of the frame 410 are formed on all sides of the socket 450 and the frame 410, respectively. The ledge 414 of the frame 410 is only configured to position and support the ledge 454 of the socket 450 so as to house the socket 450 in the frame 410. In assembly of the IC package, there is no deformation of the socket 450. In addition, the frame 410 itself can not reinforce the socket 450.

On the other hand, the proposed combination of Mori and Byquist also fails to disclose limitation (b) of the claimed invention. Although the load point channels 416a and 416b are in communication with the ledge 454 when the socket 450 is received in the frame 410, the positioning and supporting of the frame 410 is not realized via cooperation of the load point channels 416a and 416b. Actually, as expressly recited in the first sentence of paragraph [0039] of Byquist, the positioning and supporting of the socket 450 is realized via placing the ledge 454 of the socket 450 on the ledge 414 of the frame 410.

In summary, Applicant submits that the present invention is much more than merely modifying the slot/protrusion arrangement of Byquist with Mori, and independent claims 1, 9 and 17 clearly recite novel physical subject matter which is patentably distinguishable over the proposed combination of Mori and Byquist.

3. The novel physical features of independent claims 1, 9 and 17 produce new and unexpected results and hence are unobvious and patentable over these references under § 103 (a)

Applicant submits that the novel physical features of claims 1, 9 and

Appl. No. 10/821,347
Amdt. Date November 29, 2005
Reply to Advisory Office Action of November 7, 2005

17 are also unobvious and hence patentable under § 103 (a) since they produce new and unexpected results over the proposed combination of Mori and Byquist.

Via engagement between the protrusions and the corresponding slots of the claimed invention, the frame can downwardly press the socket body. The socket body, especially opposite ends of the socket body to which the socket plate and the load lever are mounted, are free from bending upward. Accordingly, deformation of the socket body and tensile forces between the socket body and the soldering balls are reduced.

These new results are essentially realized via engagement between the protrusions and slots arrangement of the Applicant's invention. Applicant's electrical connector assembly is clearly superior to that of combination of Mori and Byquist. The novel features of Applicant's electrical connector assembly giving effect to these results are clearly recited in independent claims 1, 9 and 17.

4. The dependent claims are patentable over Mori and Byquist in view of the above

Dependent claims 2-8 and 10-16 incorporate all the limitations of independent claims 1 and 9, respectively, and add respective additional limitations. As detailed above, since independent claims 1 and 9 are allowable, it is submitted that the dependent claims 2-8 and 10-16 are also allowable. Applicant respectfully requests that rejections relating thereto be removed.

In brief, the novelty of the instant application is to have the frame (20) press downward the socket body (50) in position by means of the protrusion (502) of the socket body (50) received in the slot (204) in the underside of the frame (20). That is, the frame (20) provides a downward force to hold the socket body (50) in position without risks of upward withdrawal of the socket body (50).

In opposite, Byquist discloses the protrusions (454) of the socket

Appl. No. 10/821,347
Amdt. Date November 29, 2005
Reply to Advisory Office Action of November 7, 2005

body (450) pressing downward the retention frame (410). The retention frame (410) can not provides any downward force to hold the socket body (450) in position.

The Examiner states the rearrangement/reversed arrangement of the elements is unpatentable. Anyhow, if such an re-arrangement/reversed arrangement may provide an additional function (i.e., downward holding) in comparison with the original normal arrangement, such rearrangement should be patentable.

5. Conclusion

In light of all the preceding remarks, Applicant asserts that all the pending claims are patentably distinguishable over the prior art. Therefore, Applicant respectfully submits that this application is now in condition for allowance, and an action to this effect is earnestly requested.

Respectfully submitted,

Ching-Kuo Chin

By 

Wei Te Chung

Registration No.: 43,325

Foxconn International, Inc.

P. O. Address: 1650 Memorex Drive,

Santa Clara, CA 95050

Tel No.: (408) 919-6137